



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/995,140	11/27/2001	Ofir Shalvi	TI-32258	9943
23494	7590	01/12/2006	EXAMINER	
TEXAS INSTRUMENTS INCORPORATED P O BOX 655474, M/S 3999 DALLAS, TX 75265			YANG, LINA	
			ART UNIT	PAPER NUMBER
			2665	

DATE MAILED: 01/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/995,140

Applicant(s)

SHALVI ET AL.

Examiner

Lina Yang

Art Unit

2665

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 November 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 23-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 23-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 March 2002 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 2665

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 11/03/2005 have been fully considered but they are not persuasive. The following are the responses to the applicant's arguments.

Regarding claim 23, the applicant stated that Rabenko failed to teach CM 1046 "allocating" the time slot by itself.

The only teaching of how the CM "allocates" the time slot in the current application, is stated in Fig. 4 in combination with paragraph [28] on page 10 in the specification. The specification states "The DOCSIS 50 manager allocates time slots for an upstream high QoS stream at a frame period T 52. The HN 54 manager, which is typically implemented at the cable gateway (e.g. a CM or a STB), learns the timing of the stream in the DOCSIS 50 network, and based on that, reserves timing slots for the stream in the HN". The DOCSIS manager (which is CMTS as stated in the current specification) allocates the whole frame period 52, which contains many time slots for many CMs for the upstream communication, and each CM just *reserves* the time slots 56 within the frame 52.

Rabenko teaches the same. Fig. 7 in Rabenko shows a CMTS allocates a CM transmission opportunity region 176, and 176 further contains sub-regions 178 and 180 for different priorities (col.9 lines 39-50). Those CMs that have the time slots allocated,

Art Unit: 2665

for example, in sub-region 178 will reserve the time slots there and transmit the data towards the CMTS side.

Therefore, Rabenko teaches the claimed subject matter in claim 23.

Regarding claims 24 and 27, the applicant further stated that "the entire time allocation function is limited to the cable network and CM 1046 are part of the cable network itself. CM 1046 does not manage home network. CM 1046 are actually cable modems configured to terminate data at a customer site".

A CM 1046 is shown to be part of the home network in Fig. 1 in Rabenko. Further more, a CM inherently has a MAC module (also shown in fig. 1 as applicant's own admission as a "prior art"), which manages the upstream transmission allocation mechanism among many other functions. For example, Ben-Ze'ev et al. (US Patent No. 6,687,757 B1) teaches that functions of a MAC module are to carry out the synchronization with the CMTS (Cable Modem Termination System), to manage upstream transmission allocation mechanism, to operate transmission of data on time slot boundaries (col. 1 lines 57-67 and col. 2 lines 1-11).

Therefore, Rabenko teaches the claimed subject matter in claims 24 and 27.

Art Unit: 2665

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351 (a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 23-25, 28-30 are rejected under 35 U.S.C. 102(e) as being anticipated by Rabenko et al. (U.S. Patent No. 6,834,057 B1).

Regarding claim 23, Rabenko teaches a method of data communication comprising:

allocating a first time slot for a first data stream (178 in fig. 7), wherein the first time slot is allocated by a first network manager function in a first network (CMTS in Headend);

allocating a second time slot for a second data stream (180 in fig. 7), wherein the second time slot is allocated by a second network manager function in a second

Art Unit: 2665

network (inherently allocated by CMs 1046 in home side), wherein the first data stream has a higher quality of service (higher priority) assigned than the second data stream and transmitting data streams using corresponding time slots (col. 9 lines 45-50) (fig. 7 and the corresponding description).

Regarding claim 24, Rabenko further teaches that the first network is a cable network (fig. 2, "HFC" network"); the first time slot is allocated (assigned) by a DOCSIS manager (head end CMTS 1042).

Regarding claim 25, Rabenko further teaches the second time slot (180 in fig. 7) immediately precedes the first time slot (178 in fig. 7).

Regarding claim 28, Rabenko further teaches the home network manager (CM) is configured to determine timing of the first data stream by exchanging messages with a cable modem termination system in the cable network ("time synchronization" between CMTS and CM; 116 in fig. 3; col. 7 lines 31-38).

Regarding claim 29, Rabenko further teaches the home network is configured to determining timing of the first data stream using time-sync mechanism of DOCSIS (16 in fig. 10; col. 12 lines 19-23).

Art Unit: 2665

Regarding claim 30, Rabenko further teaches the first and second time slots do not overlap (fig. 7, 178 and 180 are separated).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 26 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rabenko et al. (U.S. Patent No. 6,834,057 B1).

Regarding claim 26, Rabenko differs from the claimed invention in that Rabenko does not specifically teaches that the first time slot immediately precedes the second time slot. However, it's well known in the art that the time slots of different data streams can be timed one precedes another in any order without affecting the data transferring. Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to include teaching the first time slot immediately precedes the second time slot to provide flexibility to the data transferring.

Art Unit: 2665

Regarding claim 31, Rabenko differs from the claimed invention in that Rabenko does not specifically teaches allocating a third time slot for a third data stream, wherein the third time slot is used by one or more devices associated with the home network to communicate with one or more of the home network, DOCSIS network, and other devices associated with the home network; and the third time slot immediately precedes one of the first and second time slots. However, it is well known in the art that the figures are usually simplified for the illustration purpose, it is within the skill of an ordinary person in the art to understand that the CM transmission opportunities in fig.7 of Rabenko can contain more than two data regions. Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to include allocating a third time slot for a third data stream, wherein the third time slot is used by one or more devices associated with the home network to communicate with one or more of the home network, DOCSIS network, and other devices associated with the home network; and the third time slot immediately precedes one of the first and second time slots in order to accommodate more data communications.

Art Unit: 2665

4. Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over by Rabenko et al. (U.S. Patent No. 6,834,057 B1) in view of Amit (U. S. Patent Application No. 20040107445 A1).

Regarding claim 27, Rabenko further teaches that the second network is a home network (CM is with the home network, see both fig. 1 and fig. 2); and the second time slot is allocated by a home network manager function (inherently allocated by CMs 1046 in home side).

Rabenko differs from the claimed invention in that Rabenko does not specifically teaches that the home network is one or more of a Bluetooth network and an IEEE802.11 network. However, it's well known in the art that Bluetooth network and an IEEE802.11 network are typical home networks. For example, Amit teaches that Bluetooth networks are short-rang wireless home networks and IEEE802.11s are medium rang wireless home networks ([0007]). Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to include specifying that that the home network is one or more of a Bluetooth network and an IEEE802.11 network as taught by Amit in the assembly of Rabenko in order to be more specific about those two popular home networks.

Art Unit: 2665

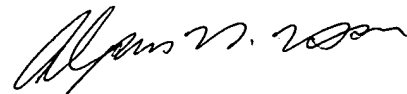
Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lina Yang whose telephone number is (571) 272-3151. The examiner can normally be reached Monday through Wednesday between 7:00 a.m. and 8:00 p.m. eastern standard time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (571) 272-3155. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

LY



ALPUS H. HSU
PRIMARY EXAMINER